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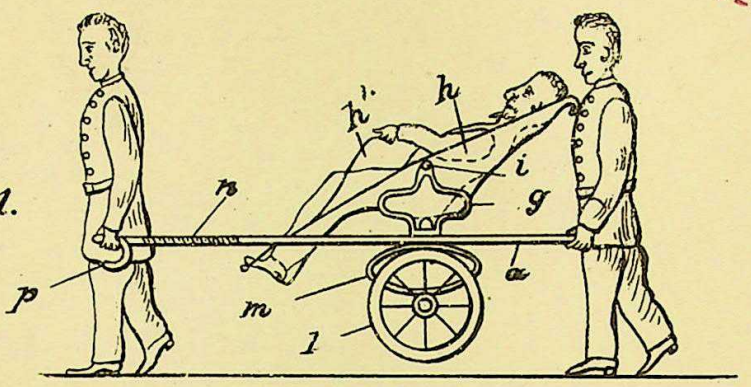
A.D. 1899. Oct. 21. Nº 21,058.
HOLTERHOFF'S Complete Specification. (1 SHEET)

21. CARRIAGES & WAGONS.
Trucks-

ENGLISH PATENT

Fig. 1.



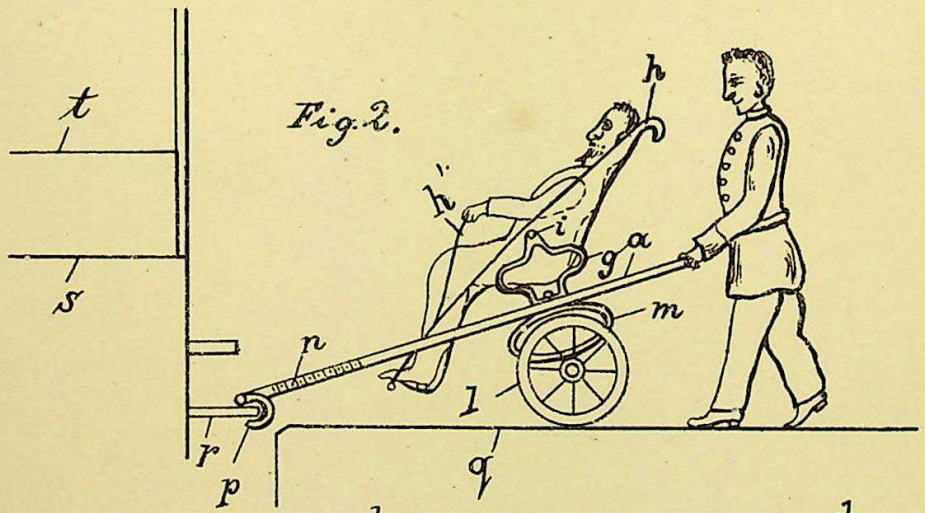


Fig. 2.

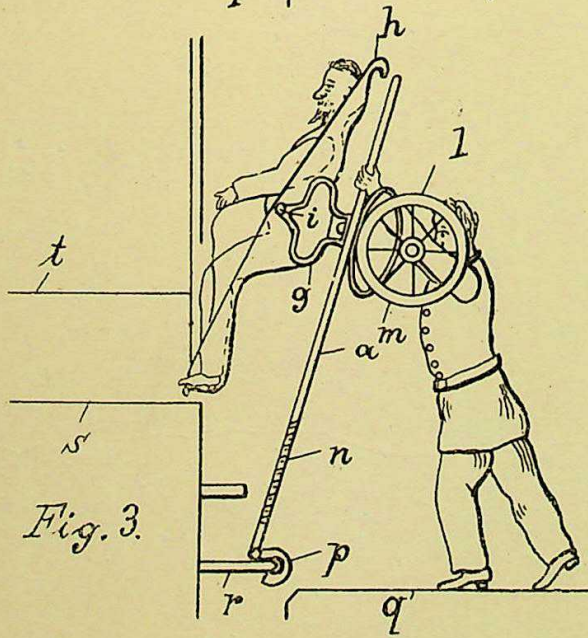


Fig. 3.

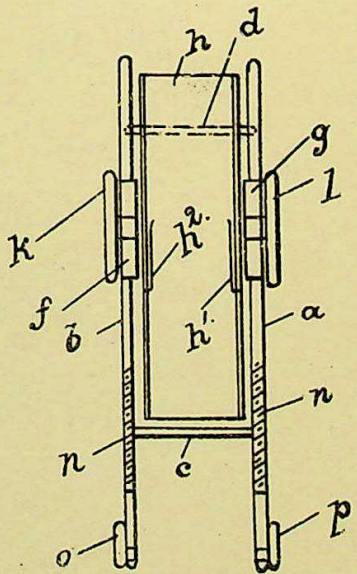


Fig 4.

[This Drawing is a reproduction of the Original on a reduced scale.]

Malby & Sons, Photo-Litho.

21. CARRIAGES & WAGONS.
Trucks-

N° 21,058 A.D. 1899

Date of Application, 21st Oct., 1899—Accepted, 25th Nov., 1899

DUPLICATE

COMPLETE SPECIFICATION.

Transportation Device, especially adapted for the Transportation of Sick Persons and Invalids.

BERNARD HOLTERHOFF, Official, and a Subject of the German Emperor, at present residing at 3, Bohmter-Strasse, in the City of Osnabrück, in the Province of Hanover, Kingdom of Prussia, part of the German Empire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has reference to a device for the carrying about of invalids and other persons not capable of spontaneous locomotion and of goods of any description as well, by which the inconveniencies hitherto incumbing upon contrivances of this kind are avoided, the invalid being moved about from one place to the other without the necessity of being touched by the carriers and sometimes roughly handled in the transportation.

My invention is illustrated in the accompanying drawings which show a form of construction embodying the same in various stages of manipulation.

The drawings represent the invention applied to an ordinary transportation van for sick persons and invalids which is borne by two men. Figs. 1, 2 and 3 show the manner of handling the van provided with my contrivance. Fig. 4 is a top view of the same.

The device consists as will be seen from the drawing, of two parallel bars or stays *a*, *b*, which are united by cross-bars *c*, *d*. Upon the frame thus formed, there is mounted a pair of spring acting supports *f*, *g*, to which the seat *h* in form of a chair is pivotically attached at *i*. The whole contrivance frame and all, rests upon wheels *k*, *l*, springs *m* being interposed between the wheels and the frame.

The length of the bars or stays *a*, *b* may be varied so as to adapt the device to different usage. In the preferred construction shown in the drawings this is effected by spindles *n* which fit into the hollow ends of the said bars or stays *a*, *b*, the interior of this tube like extremities being screw threaded so as to allow of projecting or retreating the spindles *n* which are provided with corresponding screw threads. Or I may fix the said spindles *n* so as merely to telescope within the hollow extremities of the said bars *a*, *b* and thereby vary the length of the same.

o, *p* are hooks pivoted to the other extremities of the spindles *n*; or in case the device should be constructed without the spindles *n* the said hooks *o*, *p* are to be pivoted directly to the bars *a*, *b*. The object which these hooks are made to fulfil with be readily apparent from an inspection of the figures.

For the sake of illustrating the manipulation of the device, let us assume it to be used for the transportation of an invalid upon a train. The device is represented in the drawings as being wheeled up to the rail rod car and then being inclined so as to have the hooks *o*, *p* just place themselves around the edge of the stepping board *r* of the car, *s* denoting the floor of the car and *t* being one of the chairs within the said car. In order to deliver the invalid into the car, all that is necessary is simply to lift the rear part of the device in the manner shown

in Fig. 3 of the drawing thereby elevating the invalid to the level of the floor *s* of the car without even touching his body and without in any way jerking or violently moving the chain wherein he or she is seated.

For cars with exceptionally high stairs or stepping boards where the distance of the stepping board or stair *r* from the floor *s* of the car exceeds the leverage of the device, the bars or stays *a*, *b*, of the latter may be lengthened in the manner above described, by adjusting the spindles *n* correspondingly.

The new device avoids the many drawbacks inherent to the many transportation devices of the kind now in use inasmuch as by its employment the sick person may be directly delivered into the rail road car from the van without the necessity of changing his or her seat and without even touching the sick one in the least. The device may be used in like manner for delivering an invalid from the train and removing him to his residence without in any way disturbing his or her position. The latter point may be regarded as being of prime importance, the fits to which persons with a delicate health are subject being in many cases due to disturbance or rough handling during transportation. Any disturbance which might result from violent motion of the carriers or while wheeling the device about, is also altogether excluded, the jerking movement of the vehicle being taken up by the spring acting supports *f*, *g*, *m* and by the pendulum like pivotical suspension of the seat *h*.

The invalid having been moved up to the car or carriage intended for his reception, there is no necessity of touching him and pulling him about, since the seat *h* is raised up to the level of the seat of the car or carriage without changing its vertical position; thus the sick person or invalid scarcely needs to use his hands or feet in order to change places.

It is obvious that the delivery of the sick person, patient or invalid from the rail road car or carriage into the transportation van is effected in a similar manner without subjecting the patient to any strain or rough handling. For this purpose the device is placed before the entrance of the car or carriage in the position shown in Fig. 3 of the drawing so that the patient has but to make one step which will bring him directly into the van and upon the seat *h*.

The elevated sides h^1, h^2 of the seat shown in the preferred construction illustrated in the drawings, will not only prevent the patient or invalid from falling out of the chair during the oscillations of chair in transportation, but also serve him as a support to lean against in changing seats and they also serve as a resting place for the arms.

As a result for the pendulum like suspension of the seat *h*, the latter is not only free from any jerking movement, but the position of the seat evidently remains the same during transportation and while moving the device over a flight of stairs so that any dangerous inclination of the seat which might result in the patient gliding off the seat or in other inconveniencies, is thereby avoided.

Considering the difficulties and the many inconveniencies hitherto incumbing to the transportation of sick persons and invalids whereby invariably two to four carriers were necessitated without the possibility of sparing the patient the sometimes very painful contact with the sick members of the body or occasional hurts, the great improvement achieved by the new device which in its simplicity, comfortability and absolute safety protects the patient from any contact or disturbance during all stages of transportation will be apparent.

It may also be noted that the new device which forms the subject of this application may be used with advantage for the transportation of goods of any description or for carrying the same up to any elevated position the bars or stays *a*, *b* being fulcrumed at the hooks *o*, *p* have a considerable leverage by means of which one person will be enabled to load and unload with safety the same weight which heretofore could only be handled by two persons in difficulty.

It is apparent that the form of the frame *a*, *b*, *c*, *d*, and of the seat *h* and of the spindles and hooks thereto attached are capable of many modifications without deviating from the spirit of my invention; these and other modifications suggest-

ing themselves according to the various circumstances under which the device is being used.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1./ Transportation device for men and goods of any description, comprising a frame, hooks pivotically attached to the extremity of said frame, the said frame acting as a lever for the lifting of the persons or goods, placed on the said frame with the hooks acting as a fulcrum substantially as described.

2./ Transportation device for carrying weights of any description having a frame, hooks pivotically attached to said frame and acting as a fulcrum, spring acting supports (f, g) upon said frame having a seat (h) pivotically attached thereto, substantially as described.

3./ Transportation device for carrying and lifting weights of any description, a frame with hooks pivotically attached to the extremity thereof, and means for freely suspending a seat or other means for the reception of goods or men upon said frame substantially as described.

4./ Transportation device for carrying and lifting goods or weights of any description, comprising a frame, having bars (a, b) projections at the extremities of said bars and made to telescope therein and thereby giving to said bars any desired leverage, substantially as described.

5./ Transportation device for the transportation and lifting of weights of any description, comprising a frame, having bars (a, b), tube like projections to said bars, spindles (n) being screw threaded and fitting into said tube like projections, substantially as described.

6./ Transportation device for the transportation and lifting of weights of any description, comprising a frame, means for freely suspending a seat upon said frame and means for lengthening the bars forming the sides of said frame, substantially as described.

7./ Transportation device for carrying and lifting weights of any description, a frame, bars forming the sides of said frame and means for lengthening said bars and increasing their leverage, hooks pivotically attached to the extremity of the projecting pieces used for lengthening said bars, a seat freely suspended upon said frame, substantially as described.

8./ Transportation device for carrying and lifting goods or weights of any description, comprising a frame, a seat freely suspended thereon, and wheels attached to the bottom of said frame, substantially as described.

Dated this 16th day of October 1899.

WALTER FOLKMAR,
Agent for Applicant.

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